

Third. That the river terraces and the valleys, which they line, were formed after the drainage system had been re-established by withdrawal of the water to a level below that at which the streams had previously flowed.

It will be seen that the last conclusion leads to one of wider application.

So long time had elapsed between the beginning of this drainage and the coming of the great flood, that deepening of the water-ways had become not more rapid than the general wasting of the adjacent country ; for we find comparatively gentle slopes down to the line of the highest river terrace. But after the drainage had been re-established, the rate of flow must have been more rapid than before, so as to increase the corrosive power of the streams to far beyond what it had been, for in the newer parts of the valleys the sides are abrupt. There must, therefore, have been a change of altitude with respect to tide-level, to lead to this increased rate of flow and the consequent increased speed with which the channel-ways were deepened.

It would appear then, that, after the submergence following the glacial period, the continent rose to a greater height than it had before the submergence, or that the ocean was drawn off to a lower level than before ; the result in either case being the same—to depress the mouths of the great rivers, to increase the fall of the streams, and therefore to cause the deepening of the channel-ways.

The Philosophy of the Biblical Account of Creation.

By Aug. R. Grote, A. M.

(Read before the American Philosophical Society, September 19, 1879.)

Mr. Grote introduced his subject with a list of works which he had consulted, by the following authors : Keil, Kuenen, Colenso, Bleek, Sharpe, Haverick, Geiger, Goldziher, Geo. Smith, Delitzsch, Cory, H. C. Rawlinson, Geo. Rawlinson, Von Herder, Arnold, Spiegel, Simrock, Max Müller, and Prof. Adolf Duschak.

He then gave in brief the historical distribution of the Shemitic languages and their literary remains ; following this with the Hebrew text (in English letters) of the first two chapters of Genesis, and in opposite columns his own translation, with that of the authorized English version in parenthesis, thus :

20. Vayyomer Elohim Yishr'tzu
hamnayim sheretz nefesh chayyah
v'of y'ofef alba aretz, al p'nay rakee-
ah hashamayim.*

20. And Elohim (God) said : Let
the waters abound with (bring forth
abundantly) creeping (the moving)
creature living (that hath life) and
fowl shall fly (that may fly) above
the earth in the face (in the open)
of the expanse (firmament) of hea-
ven.

* Syntactically the word "v'of" (and fowl) besides being the subject of "y'ofef" (shall fly) may be the object of "Yishr'tzu" (abound with). The common English version gives it exclusively as the object, and supposes a relative pronoun understood.

And to this verse he drew special attention, subsequently, as showing that in the Elohistie Genesis the fowls were described as created out of the waters; whereas in the Jehovistic Genesis (2 : 19) it is said :

Vayyitzer Yahveh Elohim min ha-Adamah kol chayyath hassadaiah v'aith kol of kashshamayim vayyab- hai el ha-adam, &c.	And out of the ground Yahveh Elohim (the Lord God) formed every beast of the field and every fowl of the heaven (air) and brought (them) before the man (unto Adam), &c.
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The "literary criticism" with which the author follows these chapters discusses the evident distinctness of the two narratives.

"They differ in almost every particular, in the arrangement, in the facts, in the name of the Deity, in their object, and lastly, in the language used. The different arrangements of the two accounts need hardly be pointed out.

"In the first account we have an orderly progression, a subdivision of the whole drama into acts. After each act, occupying a day, the curtain drops; the work must have been done in the night, as the day begins with the evening, although we are somewhat puzzled to understand how the author could have imagined 'evening and morning' before the creation of the sun.

"The second account, on the other hand, beginning Ch. II, 4, has no division of time at all, nor is there an orderly subdivision of events; all events are only told with reference to one central fact, the creation of man. A comparison of the facts narrated in each shows the following differences :

"The first account begins with Chaos, as in the Greek Cosmogony, the first differentiation being between light and darkness on the first day. The second day brings about the division between heaven and earth. On the third, land appears.

"The second account opens with the earth as a dry arid plain without vegetation and animal life.

"In the first account the earth is made to produce the herbs bearing seed and the trees bearing fruit with seed, independently of rain and human interference.

"In the second account the herb of the field does not grow until it has rained and man has tilled the ground, though we are not told whence he obtained the seed to plant, nor how the uncultivated plants originated. Man, however, appears *first* on the ground, while in the first account he is the *last* object of creation. In this act itself a variety of divergencies may be noted.

"In the first account man is made in the image of Elohim, in the second no mention is made of his "god-likeness," on the contrary we find that it was quite against the will of the Deity that he should become so. And after he had become so by the advice of the serpent and the curiosity of Eve, he

is driven from the Garden of Eden for, says Yahveh Elohim (Ch. III, 22), 'Behold the man has become like one of us to know good and evil,' exactly as the serpent had foretold in the same chapter (verse 5) : "for Elohim knows that on the day of your eating therefrom, your eyes will be opened and you will be like Elohim knowing good and evil.

"In Chap. II, 27, man is created, male and female.

"In the second account woman appears only after a surgical operation.

"In the first account the birds appear on the fifth day, the wild beast and *domesticated* cattle at the beginning of the sixth day, after which follows the creation of man, male and female.

"In the second account Adam is first made alone, in a manner to which we find no reference in the first account. Then the 'beast of the field and the fowls of the Heaven' are made by Yahveh Elohim from the ground before woman is created. Mark also, that first beasts and then fowls are made by Yahveh Elohim himself, out of the ground, in the same way as Man; but in the first account the fowls are produced, at command on the fifth day, out of *the water*, and beast and cattle are brought forth by the earth on the sixth day.

"The first account knows nothing of the Garden of Eden, of the four rivers, of forbidden fruit, of the naming process and of matrimony.

"The second does not mention the creation of heavenly bodies, of the fishes and 'whales,' and of creeping things. It knows nothing of 'festive seasons' and of the Sabbath.

"In the first account Man is given unlimited control over the whole earth and all animal creation; in the second he is simply the gardener of Eden."

He next discusses the difference between Elohim and Yahveh Elohim as names for the Creator, and infers that the first account was penned by an Ephraimite, and the second by a Levite, who omitted mention of the Sabbath because the Levitic tendency was to refer all festivals to the Exodus, the Sabbath included (see Dent. 5: 15); whereas the Elohist Sabbath was an adaptation from the planetary (Saturn) worship of pre-Levitic times. "The Hebrews were undoubtedly Zabeans in the early stages of their development; in evidence of which we have the word *Shabbah*, to swear, from *Shebbah*, seven; i. e., swearing meant to call the seven stars or gods to witness. We find Amos (5: 26) reproaching them with worship of *Keeyun*, Saturn."

"The Yahvistic account has a different object in view. When it was committed to writing the priestly dominion must have been already very pronounced." "We hear Yahveh declare (6: 5) that the wickedness of man was great on the earth, and the instinct of the imaginations of his heart was only evil day by day." "Cain and Abel brings sacrifices" (4: 3,4). "In the history of Noah we find the distinction of clean and unclean beasts."

"From the geographical notices (v. 10, 14) we may learn that the trade

with India, opened by Solomon (1015, 975 B. C.), must have settled down to staple articles." "Considerable time elapsed from the first partnership of Solomon with Hiram, before India became well known and its gold proverbial." "The Euphrates was the chief river. . . . since the main troubles of the Israelites originated thence."

The author then gave a chapter on the "Testimony of Archæology," describing the Assyrian tablets of the Genesis, Deluge, &c., and laid special stress on the occurrence of the deity *Il* in the Chaldean Pantheon, "standing at its head, the fountain and origin of deity, equivalent to the Hebrew *El*, *Eloah*, with its plural *Elohim*, and of the Arabic *Allah*."

"The word used in the Hebrew text of Genesis, and translated God, is *Elohim*, a plural, but the verbs and pronouns agreeing with it are all in the singular, excepting in the account of the sixth day. The twenty-sixth verse of the first chapter of Genesis reads, 'And *Elohim* said: Let us make man in our image, after our likeness.' The twenty-seventh verse again returns to the singular by beginning, 'So *Elohim* created the man in his own image, in the image of *Elohim* created he him.' We see then the noun signifying the Deity is plural, but conceived as a unit in its creative power.

"And now let us look at the first verse of the account of the fourth day and the fifth Chaldean tablet quoted above in full. 'It was delightful all that was fixed by the Great Gods (*Illinu*, Hebrew *Elohim*) stars their appearance in figures of animals *He arranged*.' Exactly as in the Hebrew text, the noun is in the plural and the pronoun and verb in the singular, and this is kept up throughout the whole account. Thus, under the test of the linguistic crucible, this difference also gives way and the identity of the Hebrew and Chaldean accounts, not only in their incidents, but even in their fundamental mythological notions must be accepted as proven."

He then discussed the probable date of the Chaldean originals of the Assyrian tablet stories, and "the conclusions. . . reached may be thus briefly stated: The legends having existed for a long time as oral traditions, were committed to writing before the union of the kingdoms or before 2234 B. C., when Abraham, according to Biblical chronology, was not yet born. The earliest date assigned to the composition of the Biblical records is the time of Moses; this date is positively established through hieroglyphical inscriptions to be that of the king Menephthah, the Pharaoh of the Exodus, who followed his father Rameses II. on the throne in the year 1245 B. C. According to this the Chaldean account of Genesis would be nearly 1000 years older than the composition of the Biblical legends."

After giving "parallel myths" from other races and nations, the author concluded his paper with "The testimony of facts."

"At the outset it will be seen to be foreign to our purpose to introduce here any evidence in proof of the reality of the process of Evolution. But the existing evidence that things have been brought to their present condition by a slow process of succession, in which the more simple forms pre-

ceded the more complex, is unanimously conceded by all who have investigated any branch of natural science, and effectually contradicts the sudden and separate origin of things deducible from the account in Genesis. With this, it will be sufficient if we point out in a brief way the facts discovered by science which contradict the account of creation in Genesis, whether we accept the sequence of plants and animals revealed by a study of fossils and living kinds, as indicating a genetic connection, or as being insufficient grounds for such a conception.

“From internal evidence, Genesis is not homogeneous in its composition, as we have already seen. An originally detached portion having a different immediate source, terminates with the third verse of the second chapter, and it is quite evident that in dividing the text into chapters a mistake has been committed in this instance; the second chapter should begin, if an arbitrary division into chapters is intended to help the comprehension of the text, at its fourth verse. That these two accounts contradict each other is plain. The first account affirms that when God created man, ‘male and female created he them.’ The second account as positively declares that man was created in the person of Adam as one sex and solitary. Finding that such a creation was incomplete and useless, the Deity made woman not out of the ground or dust, but of a bone of man himself. At one time one can readily conceive that such a belief could be seriously entertained when we read the accounts given by existing savages of their own origin. But it never for one moment occurs to us to credit such conceptions. The idealists have been busy with this account of the origin of woman. It is taken as symbolical of the marriage state, of the dependence of woman upon man, ‘bone of his bone, flesh of his flesh.’ But to the uncultured races *their* fairy-stories are real, they believe them as Roman Catholics believe modern miracles and Protestants ancient miracles. Among the people who originated this fairy-tale of the origin of the first pair, the story passed for circumstantial fact. It satisfied their natural enquiry as to the origin of things, and it arose out of their mental status. But to ask us, who have gone beyond their mental condition, to still accept it as true, is unreasonable, and it is quite impossible that we should comply with such a request.

“In the second account the events of creation are given in a different order from the first, and this account is throughout more circumstantial. The Garden of Eden is described, and this has been lately identified with the mythological center of the ancient Chaldean Pantheon. Before both accounts were cast in their present fossil condition in the Hebrew Bible, they probably had a connection, as we have seen in a preceding chapter, and had undergone a development in which both had lost something of their original form, the first account more, the last less.

“The first account in the first chapter of Genesis may be now compared with the facts ascertained by science. We must believe that the text should be understood literally when it speaks of ‘day’ and ‘night,’ because with this reading it agrees with the context. From the alternation

of light and darkness sprang 'day' and 'night,' and 'the evening and morning were one day.' To take these *days* as *indefinite periods* is a proof of want of exact thought, it is an effort to reconcile an exploded statement with the new facts, rather than cut loose at once from demonstrated error. The Hebrew word *Yom* not only means a day of twenty-four hours, but it expressly means *day* in this connection.

"But even granted that we take the less natural meaning of the word 'day' as the proper rendering, and that by this word 'day' any conceivable measurement of time is intended, it is only on the fourth of these days that the Sun appears. Astronomy, if it shows anything, proves that the satellites of a central orb, as separate masses of matter, must have been projected from it and at one time formed a part of such a body. The relation between the earth and the sun, as we gather it from astronomical sources, is a different one from that intended by the account in Genesis. We cannot conceive that the sun or the moon were created for the benefit of the earth or its inhabitants. Night and day are not necessities in the sense that we could not have become accustomed to some other division of times, for darkness and light, as indeed the Eskimo now are. Our organs of vision have plainly adapted themselves to the light which evidently existed before eyes were developed. And as to the succession we find that the earth is the child of the sun and the parent of the moon. But, that such a succession was comprehended by the writer of Genesis cannot be maintained. He undoubtedly believed that the sun and the moon were created for the benefit of the earth, which he did not know was round and a satellite, but imagined as flat and the center of the system. Light is also conceived of as independent of the sun. Plants bearing 'seed and fruit after their kind,' are regarded as being created before the sun, whose rays, the physiological botanist now shows, alone give them health and vigor. Again, whole groups of animals of whose remains mountains are made, such as corals and rhizopods, are omitted from the account. Such an omission, if it tallied with the restricted knowledge of the times in which such an account was believed, proves conclusively that the account was not extraneous, or in any way above the level of ancient civilization. And undoubtedly it does so tally, and the most powerful argument against Genesis, for those accessible to reason, lies in the fact that it contains no information superior to a very low grade of observation in natural history. Later on, in the magnified and equally improbable story of Noah's ark, we find no mention of the rescue of the plants or how they stood the flood. At that time it was simply not known that plants breathed like animals and would drown as well as they.

"The records of the rocks tell us unmistakably that plants and animals have flourished through untold ages side by side, new forms succeeding old ones. But in Genesis, the creation of trees and shrubs took place in a period perfectly distinct from animals. The paleontologist must, then, reject the account of Genesis as perfectly incredible. Again the distinction between the 'beast of the earth after his kind and cattle after their kind,' shows

a belief that domestic animals were created in a state of domestication. The Hebrew word *b'hemah* means cattle, *i. e.*, domesticated animals, in contradistinction to wild animals. The other term *chayah* means wild beasts, in contradistinction to tame animals. The use of both terms shows that both kinds were believed to have been created 'after their kind,' and as distinct species. There is nothing contradictory in the conclusion that the statement was at one time believed in, because savage man still believes in parallel assertions, and this particular belief was generally current in Europe before naturalists had shown its contrary to be true, and that all domestic animals were originally wild and by man's selection have been changed from their original physical condition. A vegetable diet is also assigned at first to beasts and man, but the physiologist knows that carnivorous animals have always existed and that the instincts of animals are true to their teeth.

"The story of Genesis takes no account of the different races of mankind nor of prehistoric man. Its chronology is recent and special. All attempts to consider it as merely omitting to mention these facts, which it could as well have given, must be rejected as defective reasoning. If it could go so far as to note the creation of cultivated races of beasts, such as cattle, it should not have failed to note the more important races of mankind. The character of the fauna of the country in which the myth originated is stamped on the face of the recital. All attempts to consider it as the true Genesis of the white, or Semitic and Aryan races, and therefore as reliable to this extent, must likewise fail. The history of the descent of man is not yet written, but, so far as we have the facts, they make for the view that the negro is a geographical variety, thrown off from an ancient stock of mankind, and therefore not an older stem through which mankind has passed to become white.

"Finally, at no time can it be true to say that 'thus the heavens and earth were finished and all the hosts of them.' Change in all nature is the well attested truth, and this change has never relaxed its endless procession.

"Unessential as much of the scientific criticism directed against the ethical portions of the Scripture is seen to be, such criticism must be appropriate when directed against a portion which deals almost exclusively with statements of facts.

The Gods of the two accounts in Genesis expressed by nouns plural in form mark a reminiscence of a preceding plurality of deities and are plainly not coincident with our modern conception of the Deity. The notions of the Bible writers about God are not the same as the notions of the Israelites during the times of which the Bible writers treat. And our notions about God are not the same as those of the Bible writers. There has been on the one hand a growth in the direction of a recognition of an universal God, who at one time was tribal and national; and on the other hand there has been a progress in the direction of a recognition of one God, the final cause of Nature, who has absorbed the minor deities into himself.

This last change runs parallel with our progress in science and philosophy. We have gradually come to the knowledge that the laws which govern Nature are related and correlated and it is now no longer necessary to have a separate God for each phenomenon. But our Gods were those of the Aryan nations, Greek and Roman, Indian and Scandinavian, and these nations were behind the Semitic in the expression of monotheism. In fact we came by our present and popular monotheism suddenly through Judaism in its form of Christianity; while the monotheism of the Hebrews was not fully expressed until the eighth century before Christ. Moses, as has been abundantly shown, was not a monotheist. In the ten commandments, which in their ideas are certainly his, we find the expression, "Ye shall have no other Gods before me (Yahveh)." This carries the force of an acknowledgment that *after* Yahveh, and as of inferior rank and power, other Gods might be worshiped. The monotheism of the Israelites is more especially a development on the side of morality. Yahveh is the High and Holy One; a broken and contrite heart He will not despise! By giving Yahveh the character of supremacy the first steps towards a pure monotheism were slowly established; and the straight line of the best conduct being recognized, it was easier to reach monotheism by this route than by an intellectual acquaintance with the forces of Nature, upon which the Indo-European mind, before its contact with Judaism, principally concentrated its powers. But in the mythology of Aryan nations a progress towards monotheism can be shown; only the Aryan idea is more abstract and intellectual, the Semitic concrete and moral. As soon, therefore, as Judaism was offered as the true religion for Aryan nations, it was only accepted in its dilution of Trinitarianism. It is now the province of science to demonstrate from the intellectual side the truth of the monotheistic philosophy. But, undoubtedly, the prime error of the orthodox Biblical expounders, as also the error of the Bible writers themselves, is the measuring of past epochs by present conditions.

"In the Biblical story of creation we have to do with a myth, which had undergone many changes before Genesis was written. Since that time and when the latter could no longer change, many differing conceptions of the origin of things have found their orthodoxy in a play upon the meaning of the words and a distortion of their original intent. A lax wording, a shorter and more general statement, a monotheistic conception, gives an elasticity to the story of Genesis and a certain adaptiveness to later discoveries; but in its treatment of the heavens and the heavenly bodies, in the little bit of the earth on which its miracles are performed, it is still akin to the notions of the Homeric ages with regard to the Universe."